Diabetes in Indigenous Peoples - When nothing seems to be working!

David Dannenbaum
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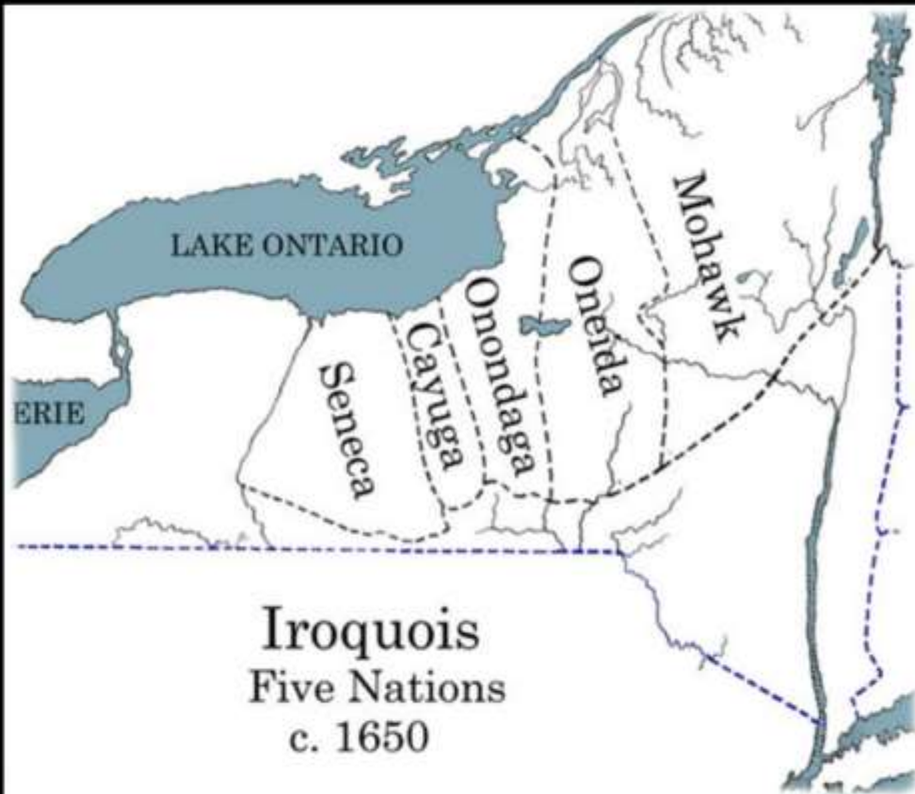
Dec 4, 2019

McGill Family Med Refresher Course

Acknowledge and Thank Kanien’kehaka (people of the flint/Mohawk) Territory



Conflict of Interest

- No Industry conflict

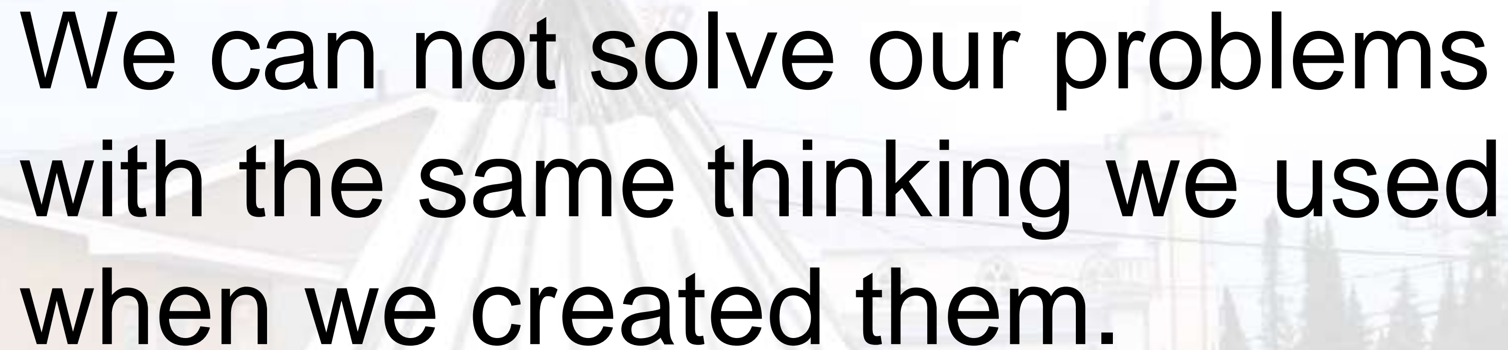
objectives

1. Understand the barriers and effective solutions to reaching diabetes targets

2. Treat the person - not the numbers,
   and the numbers will come down!

3. Adjust our expectations and understand we are succeeding!

4. Come out of it as better physicians..
I promise!



We can not solve our problems with the same thinking we used when we created them.

Albert Einstein

CLINICAL SITUATION 1

Amanda, a 25 years-old woman, comes at your office today for a new diabetes diagnosis.

She was diagnosed with pre-diabetes at her 6 weeks post-partum glucose test 3 years ago when she had her daughter; she was GDM during her pregnancy.

Amanda tells you that she does not want to take medication. She is ready to make some changes in her lifestyle.

Personal history: Pre-diabetes x 3 years GDM: 2015 **Family history:** - Mother: Diabetic with nephropathy stage 4, HTN, DLP - Father: MCAS, HTN, DLP **Medication:** NONE	**Lab results: 2018-05-02** - A1c: 6,6 % - ACR: 0,2 mg/mmol - eGFR: 120 ml/min - LDL: 1,2 mmol/L **Physical exam:** **Capillary glycaemia:** 8,2 mmol/L **BP:** 129/76 mmHg

Conseil Cri de la santé et des services sociaux de la Baie James

Cree Board of Health and Social Services of James Bay

The Sweet Bloods of Eeyou Istchee

Stories of Diabetes and the James Bay Cree

Stories James Bay Cree Storytellers

Written Ruth DyckFehderau

Vascular Protection Checklist

- ✓ A • A1C – optimal glycemic control (usually ≤7%)
- ✓ B • BP – optimal blood pressure control (<130/80)
- ✓ C • Cholesterol – LDL-C < 2.0 mmol/L or >50% reduction if treatment indicated
- ✓ D • Drugs to protect the heart

  A – ACEi or ARB | S – Statin | A – ASA if indicated | SGLT2i / GLP-1RA with demonstrated CV benefit if type 2 DM with CVD and A1C not at target
- ✓ E • Exercise / Healthy Eating
- ✓ S • Smoking cessation

ACEi, angiotensin converting enzyme inhibitor; *ARB*, angiotension receptor blocker; *CV*, cardiovascular; *CVD*, cardiovascular disease; *DM*,

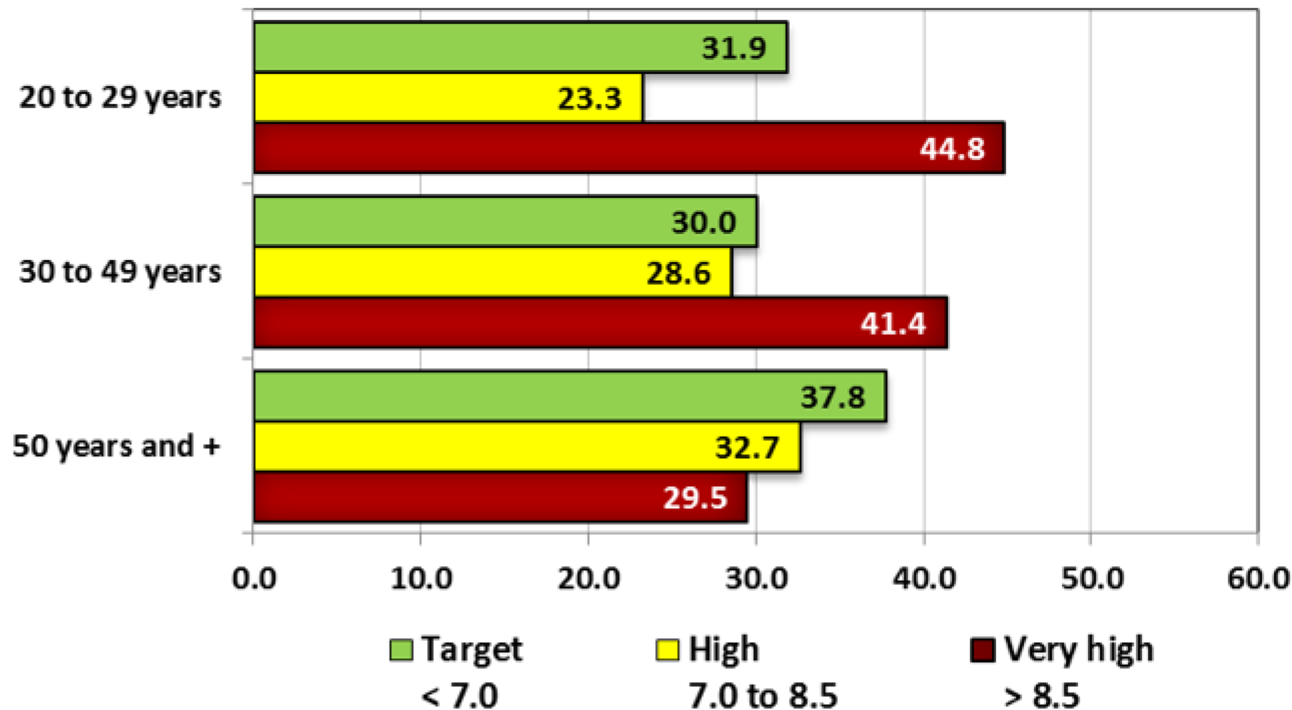
How well are the Cree managing DM?

A1C < 7.0%	37%
BP< 130/80	40%
C-LDL < 2.0 (high risk)	46%
D- on ACE/ARB**	82%
S - Not Smoking**	86%

Source: CDIS, 2014 update or
**CIRCLE study - chisasibi

2017 - even worse! 34.5%

Proportion (%) of JBNQA Cree beneficiaries aged 20 years or over with type 2 diabetes by level of their last A1C result by age group, Eeyou Istchee, January 1st, 2016 to December 31st, 2017



Source: CDIS, January 2018

Why do 63% Cree have A1C above target?

1) patients don’t care about their diabetes
2) patients don’t listen to advise of doctor
3) patients don’t take their meds
4) patients don’t follow diet
5) patients don’t come to their appt.

Maybe it is not the patients fault?

Maybe I am not listening to what the patients need?

Maybe I need to change??

DIABETES CANADA

2018 Clinical Practice Guidelines

Type 2 Diabetes and Indigenous Peoples

Chapter 38

Lynden Crowshoe MD, CCFP, **David Dannenbaum** MD, CCFP, **Michael Green** MD, MPH, CCFP, FCFP, **Rita Henderson** MA, PhD, **Mariam Naqshbandi Hayward** MSc, **Ellen Toth** MD, FRCPC

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Key Messages

- Diabetes management **targets** in Indigenous peoples should be **no different from general** population
- A focus on **building a therapeutic relationship** with an Indigenous person with diabetes is important rather than a singular emphasis on achieving management targets
- The **current poor success** at achieving management targets highlights the **limitations of health services** when they are **not relevant** to the social and cultural contexts of Indigenous peoples

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DIABETES CANADA

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Key Messages

- A purposeful process of **learning** and continuous **self-reflection** is required **by the health-care worker** to understand their **own ongoing biases** and then integrate Indigenous-specific contexts within the clinical approach to diabetes management

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Are you thinking….

1) patients don't care about their diabetes
2) patients don't listen to advise of doctor
3) patients don't take their meds
4) patients don't follow diet
5) patients don't come to their appt.

Practical Tips for Health-care Providers

- Acknowledge the legacy of colonization and its ongoing adverse effects on Indigenous health. This legacy:
  - Maintains socioeconomic disadvantage that limits healthy choices (diet, physical activity, adherence to medication, etc), increases levels of stress, and decreases capacity for self-care and healthy behaviour change
  - Perpetuates a toxic social environment for the individual, family, and community with pervasive and accumulated psychosocial adversities throughout the life-course
  - Stirs experiences of shame and stigma with a diagnosis of diabetes
  - May recall residential school like conditions with health-care provider expectations that Indigenous people with diabetes will acquire diabetes knowledge and produce "test" results

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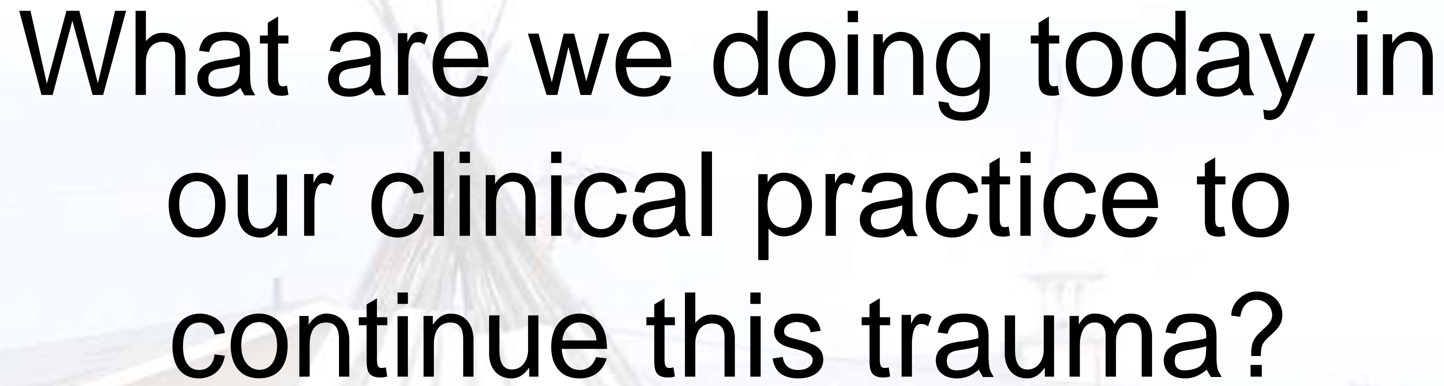
What are we doing today in our clinical practice to continue this trauma?



You have diabetes (no I don’t…)

You must stop eating goose greese, you must walk every day.

You must change your living..

You must take these meds ….

Smoking cessation in pregnant women:

Many victims of intimate partner violence, and were concerned about home security

smoking was a coping mechanism and an opportunity for social interactions.

Having someone from a middle class environment telling then that they should quit smoking was perceived as punitive.

Dr Jeffrey Reading

Practical Tips for Health-care Providers

- Engage and connect broadly with the Indigenous community to:
  - **Implement prevention efforts and screening, with special attention to children and pre-gestational women, as well as the building of culturally sensitive inter-professional teams, diabetes registries, and surveillance systems**
  - **Foster positive relationships at the individual, family, and community levels that advocate for family and community resources for Indigenous peoples**
  - **Include traditional and cultural leadership to learn about local beliefs, practices, and healing resources**

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Practical Tips for Health-care Providers

- In clinical interactions, recognize, explore and acknowledge:
  - **Discord within the therapeutic relationship that may arise from heightened apprehension by the Indigenous person with diabetes as well as emotional reaction to prejudice, power and authority asserted by health-care providers**
  - **Interconnectedness between socioeconomic disadvantage, adverse life experiences and capacity for managing diabetes**
  - **One's own (i.e., the health-care provider's) concepts of health, diabetes care and assumptions about Indigenous perspectives**
  - **The Indigenous person's preferences and barriers for re-connecting and integrating cultural resources and traditional approaches to care**

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DIABETES CANADA

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Conseil Cri de la santé et des services sociaux de la Baie James

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Cree Board of Health and Social Services of James Bay

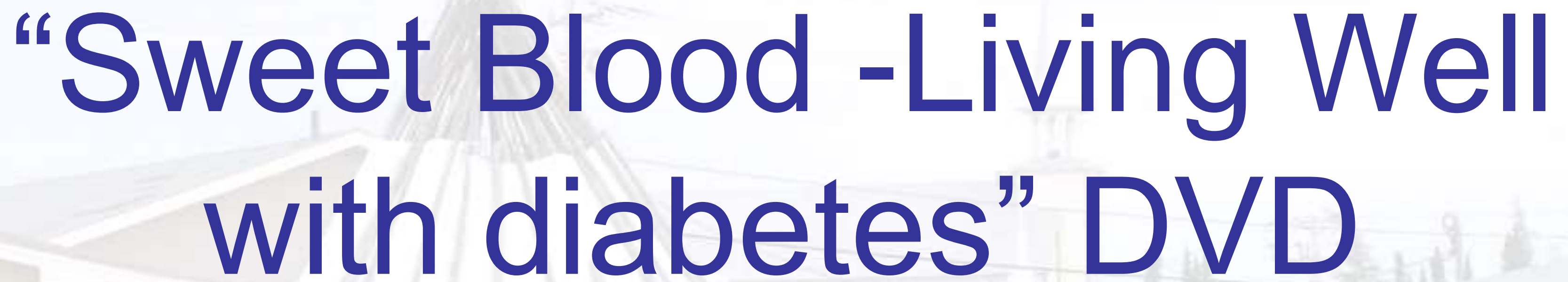
The Sweet Bloods of Eeyou Istchee

Stories of Diabetes and the James Bay Cree

Stories James Bay Cree Storytellers

Written Ruth DyckFehderau

“Sweet Blood -Living Well with diabetes” DVD



https://www.youtube.com/watch?v=OoaCzJ6TLR0

Doctor – Patient relationship 1

Doctor patient relationship 2

Case 1 – a tough case in EI

61 yo F on HD

DM2 x 25 yrs HD started 2017

trajenta 5 mg
Recent added diamicron
Ramipril 10
Vit D 1000 DIE

Bisoprolol 2.5
Lasix 20 BID
Calcium 500 BID
Renagel 600 TID

Refuses CBGM refuses insulin

glu preHD 18, post HD 12 . A1C 10.4%

“What oral agents safe are in ESRD”

guidelines.diabetes.ca/cpg

Gmail CME site Dropbox Gmail RAMQ Medesync jeton-CDIS 2017 Refresher UpToDate iNotes Bookmarks 6N waska schedule newCDIS

DIABETES CANADA
CLINICAL PRACTICE GUIDELINES
The Canadian Diabetes Association has become Diabetes Canada*

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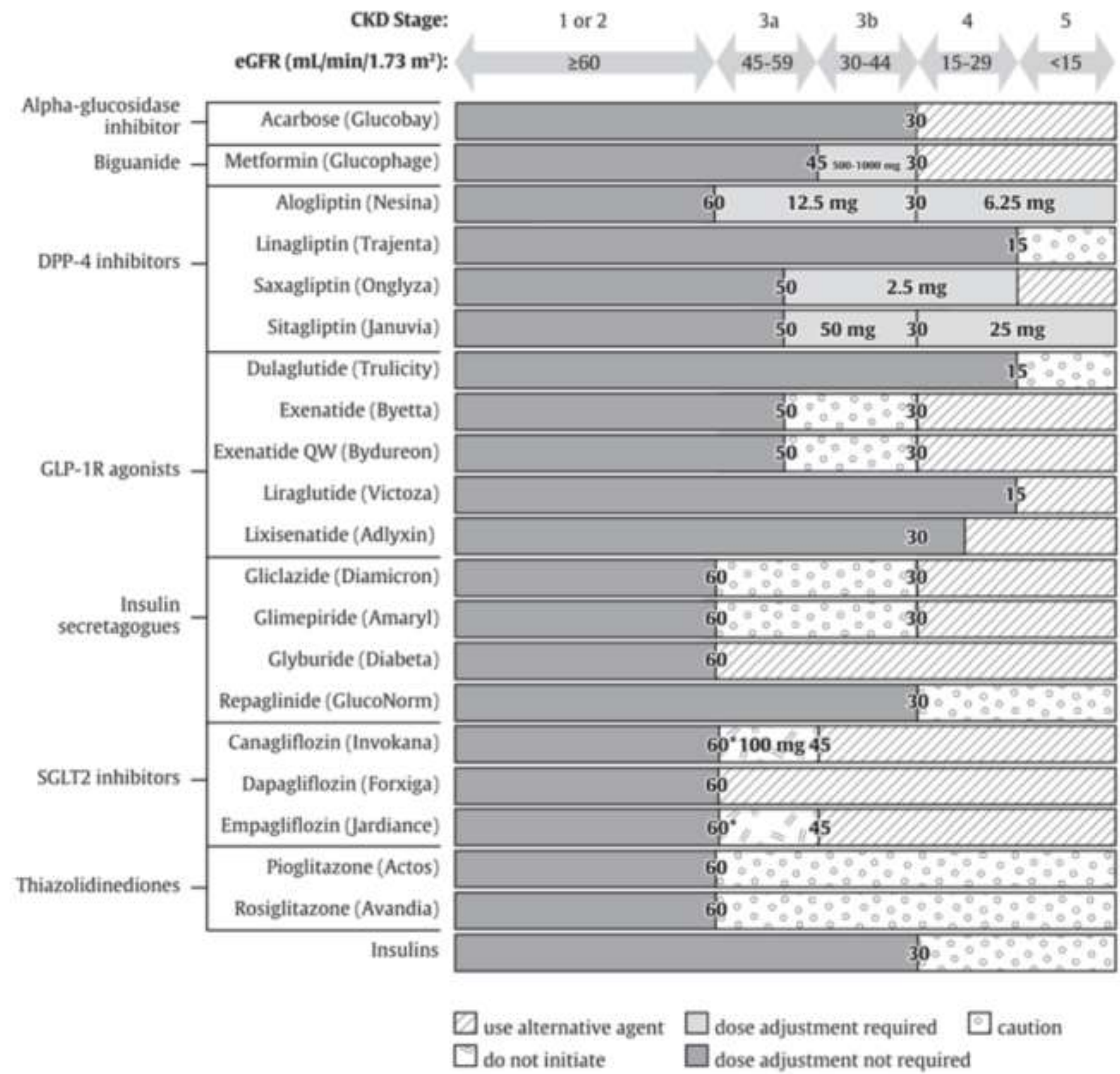
3 Definition, Classification and Diagnosis of Diabetes, Prediabetes and Metabolic Syndrome
4 Screening for Diabetes in Adults
5 Reducing the Risk of Developing Diabetes
6 Organization of Diabetes Care
7 Self-Management Education and Support
8 Targets for Glycemic Control
9 Monitoring Glycemic Control
10 Physical Activity and Diabetes
11 Nutrition Therapy
12 Glycemic Management in Adults with Type 1 Diabetes
13 Pharmacologic Glycemic Management of Type 2 Diabetes in Adults
14 Hypoglycemia

ENG 11:54 AM

Figure 2

Antihyperglycemic medications and renal function. Based on product monograph precautions.



Find something nice to say..

CDIS

CHART NIPP

Patient Summary

Female

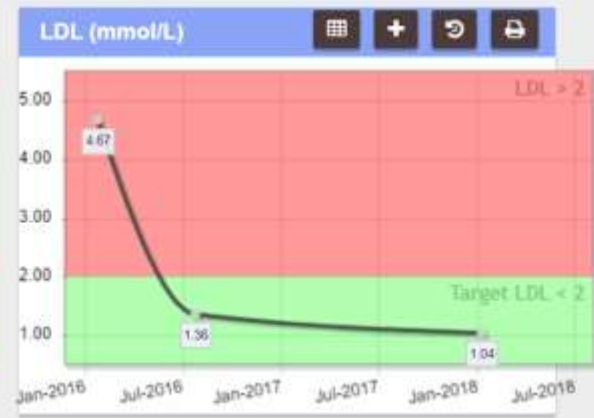
birth: 1957-01-23

tes history

e	Type of diabetes
0-23	Type 2 DM

t's Health Care ers

Edit Patient



SPB/DBP

mmHg	Date
154 / 92	2009-02-11
170 / 90	2008-10-22
140 / 95	2005-05-03
140 / 95	2003-05-01
155 / 95	2003-04-01

Guideline

A1C Conversion Table

CDIS Full version

CDIS Full version

Reset Zoom Print Graph

e in graph to zoom in.

is Full version

lose | Reset Zoom | Print Graph

elect area in graph to zoom in.

Evolution of LDL in time

CDIS Full Version

Case 2- a harder case in EI..

39 yo F DM2 x 15 yrs

microalbuminuria, HTN, DLP

Lantus 150 HS H 60 -60 – 60- 0

Trajenta 5

Lipitor 10

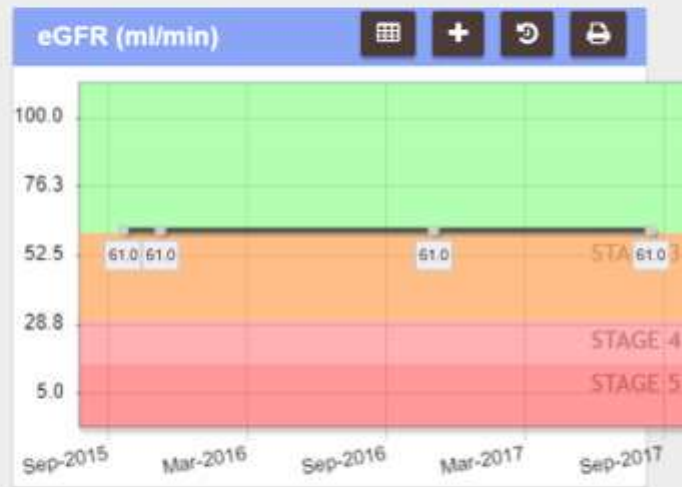
Unable to tolerate metformin

“Want to decrease her insulin, should I add Victoza and empagliflozan”

CHART

SPB/DBP

mmHg	Date
132 / 74	2005-07-07
128 / 82	2004-03-15
100 / 60	2002-12-09



Guideline

A1C Conversion Table

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Evolution of LDL in time

DIS Full Version

Reset Zoom

Print Graph

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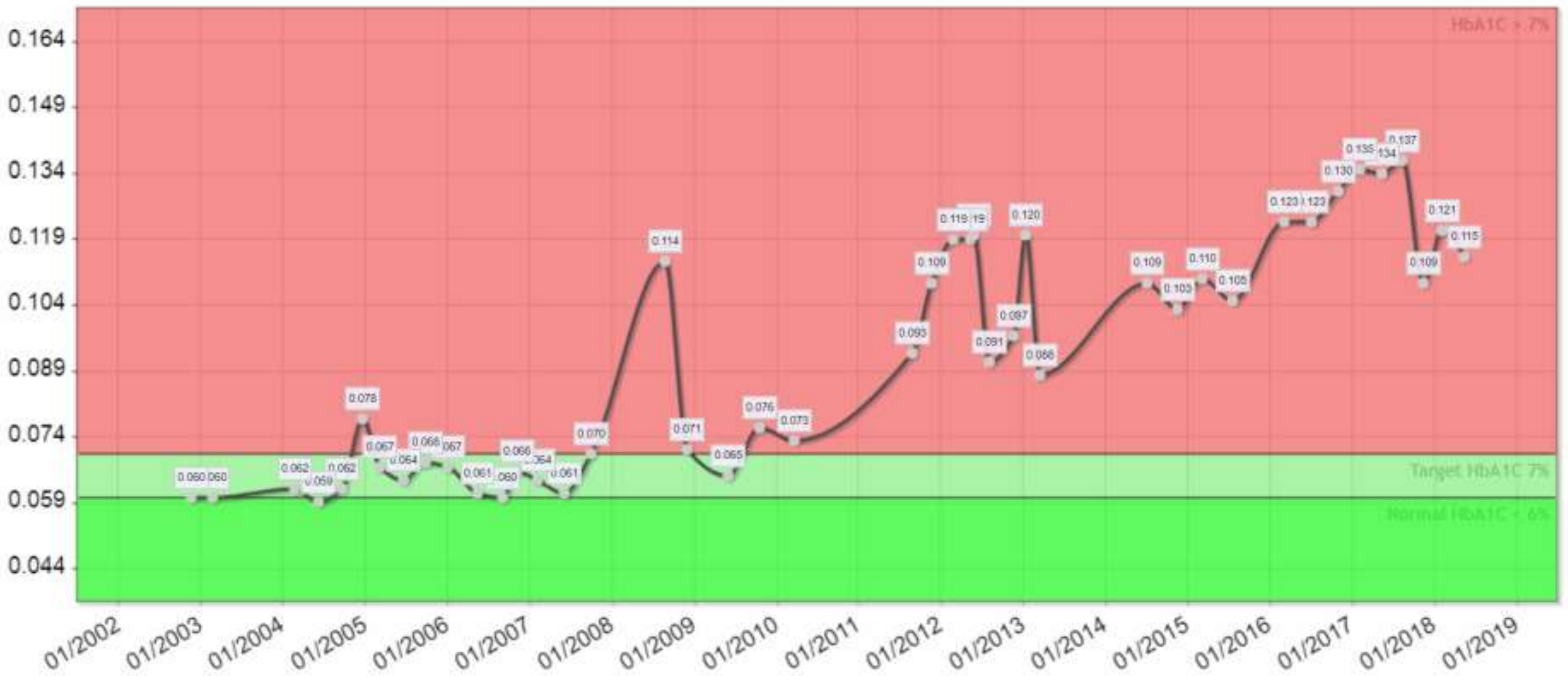


DIS Full version

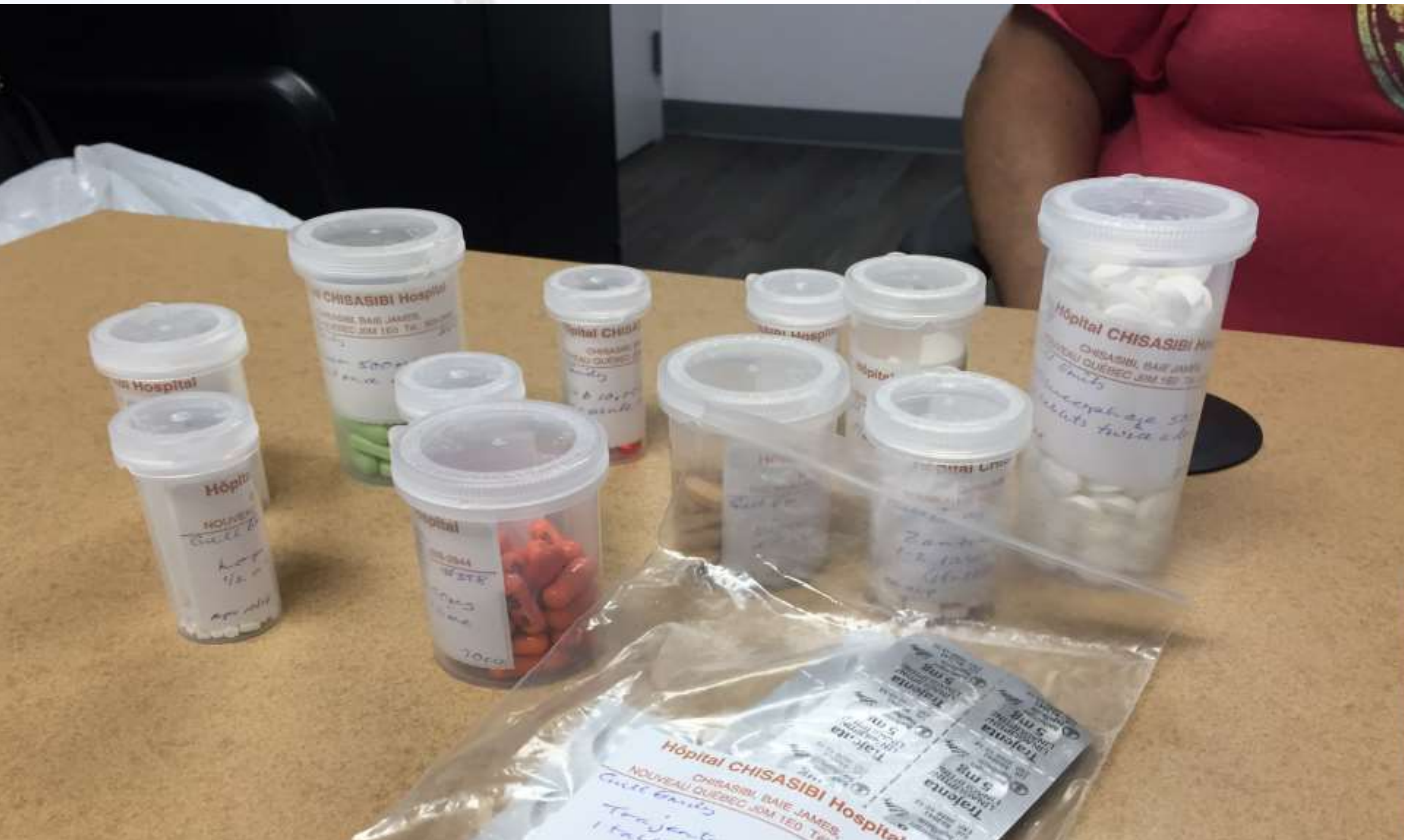
e Reset Zoom Print Graph

ct area in graph to zoom in.

Evolution of HbA1c in time

CDIS Full Version

Case 3 .   OMG!!



55 yo F DM x 15 yrs, 20 pills/day!!

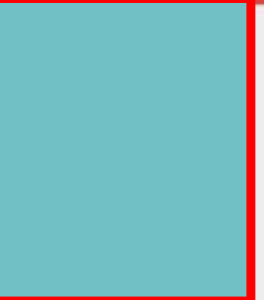
NPH 0 – 0 – 0 – 76
Metformin 1 gm BID
metoprolol 12.5 BID
Calcium 500 BID
Valsartan 160 ii q D
Vit D 10,000 q wk
Synthroid 175 u qD
Reactine 10 qD

Humalog 20 – 20 – 20- 0
plaquenil 200 BID
Fenofibrate 200 qD
trajenta 5 qD
HCTZ 25 qD
Atorvastatin 20 QqD
Amlodipine 10 mg qD
ranitidine 150 BID

CDIS

CHART

Patient Summary



er: Female

of birth: 1963-04-29

etes history

Date	Type of diabetes
7-11-18	Type 2 DM

ent's Health Care kers

MD

tionist

urse

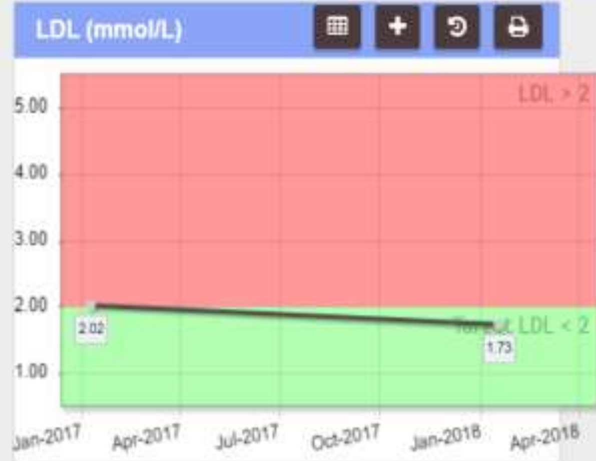
HR

Edit Patient

CDIS Full version

HbA1c

LDL (mmol/L)

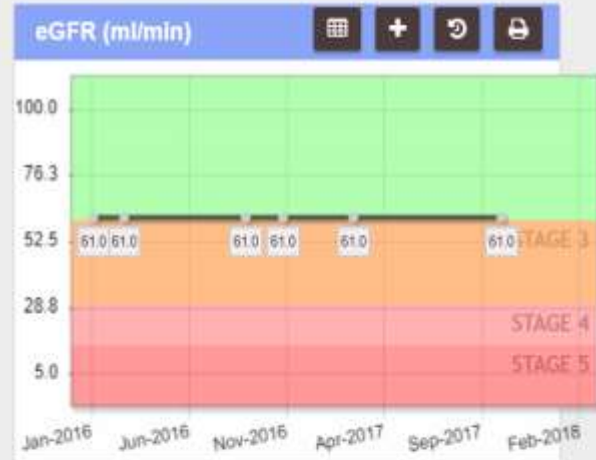


SPB/DBP

mmHg	Date
146 / 70	2009-03-26
126 / 76	2008-04-26
120 / 80	2007-05-25
135 / 80	2007-01-26
130 / 78	2006-10-05

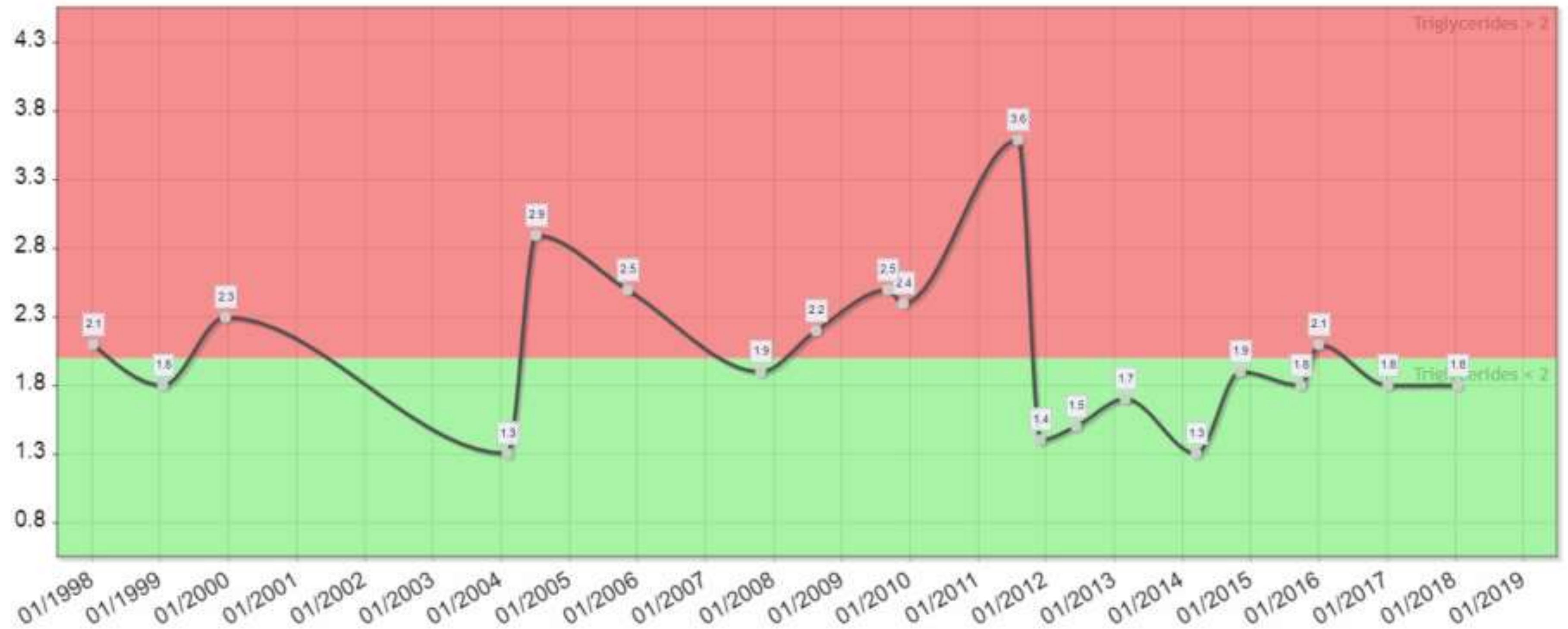
AC Ratio

eGFR (ml/min)



Guideline

A1C Conversion Table



Reset Zoom
Print Graph
area in graph to zoom in.
Evolution of Triglycerides in time
4.3
3.8
3.3
2.8
2.3
1.8
1.3
0.8
Triglycerides > 2
Triglycerides < 2
01/1998
01/1999
01/2000
01/2001
01/2002
01/2003
01/2004
01/2005
01/2006
01/2007
01/2008
01/2009
01/2010
01/2011
01/2012
01/2013
01/2014
01/2015
01/2016
01/2017
01/2018
01/2019

se Reset Zoom Print Graph

ct area in graph to zoom in.

Evolution of HbA1c in time

New meds - 10 pills/d

NPH 0 – 0 – 0 – 76 Humalog 20 – 20 – 20- 0 adjust on own

Metformin 1 gm BID
Atorvastatin 20 qD
Synthroid 175 u qD
Vit D 10,000 q wk

plaquenil 200 BID
Valsartan–HCT 320/25 qD
Amlodipine 10 mg qD

Reactine 10 qD PRN

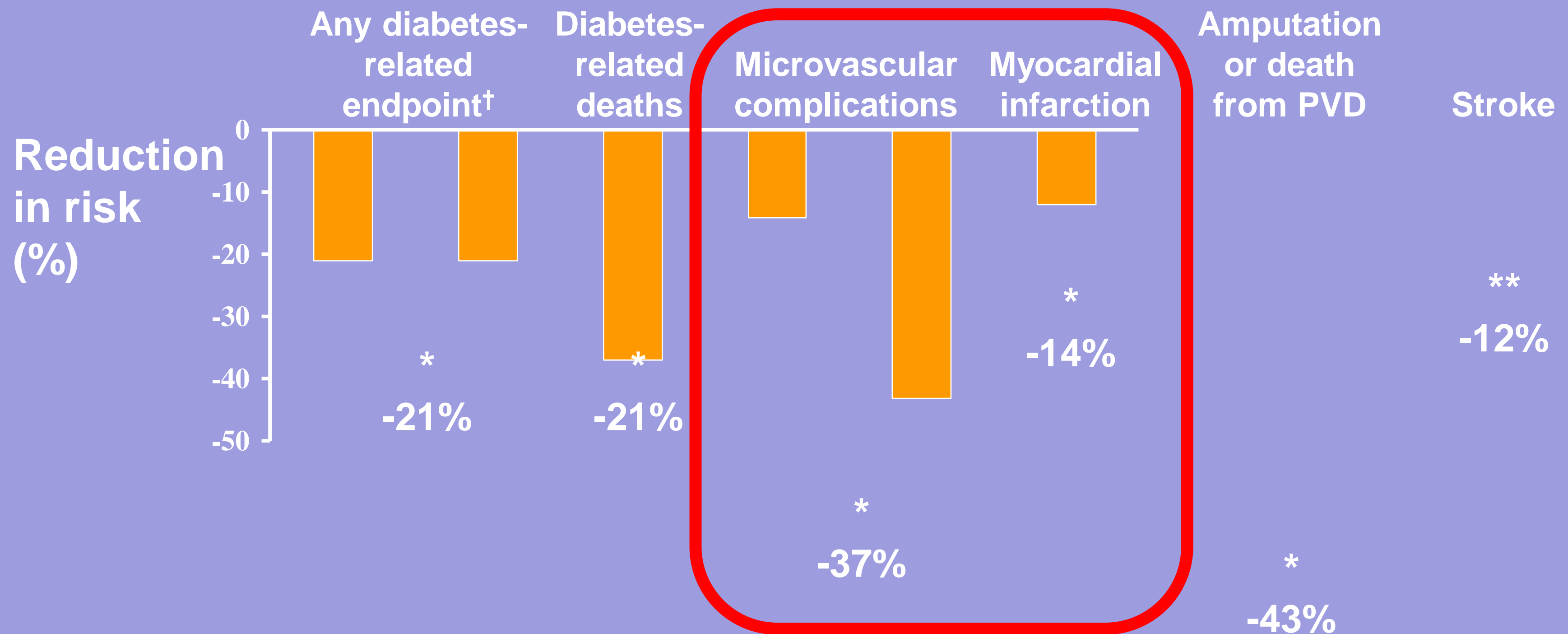
ranitidine 150 BID PRN

Doesn’t mean ignore CPG,

but realize when meds are not your best tool…

Effect of reducing HbA_{1c}: UKPDS

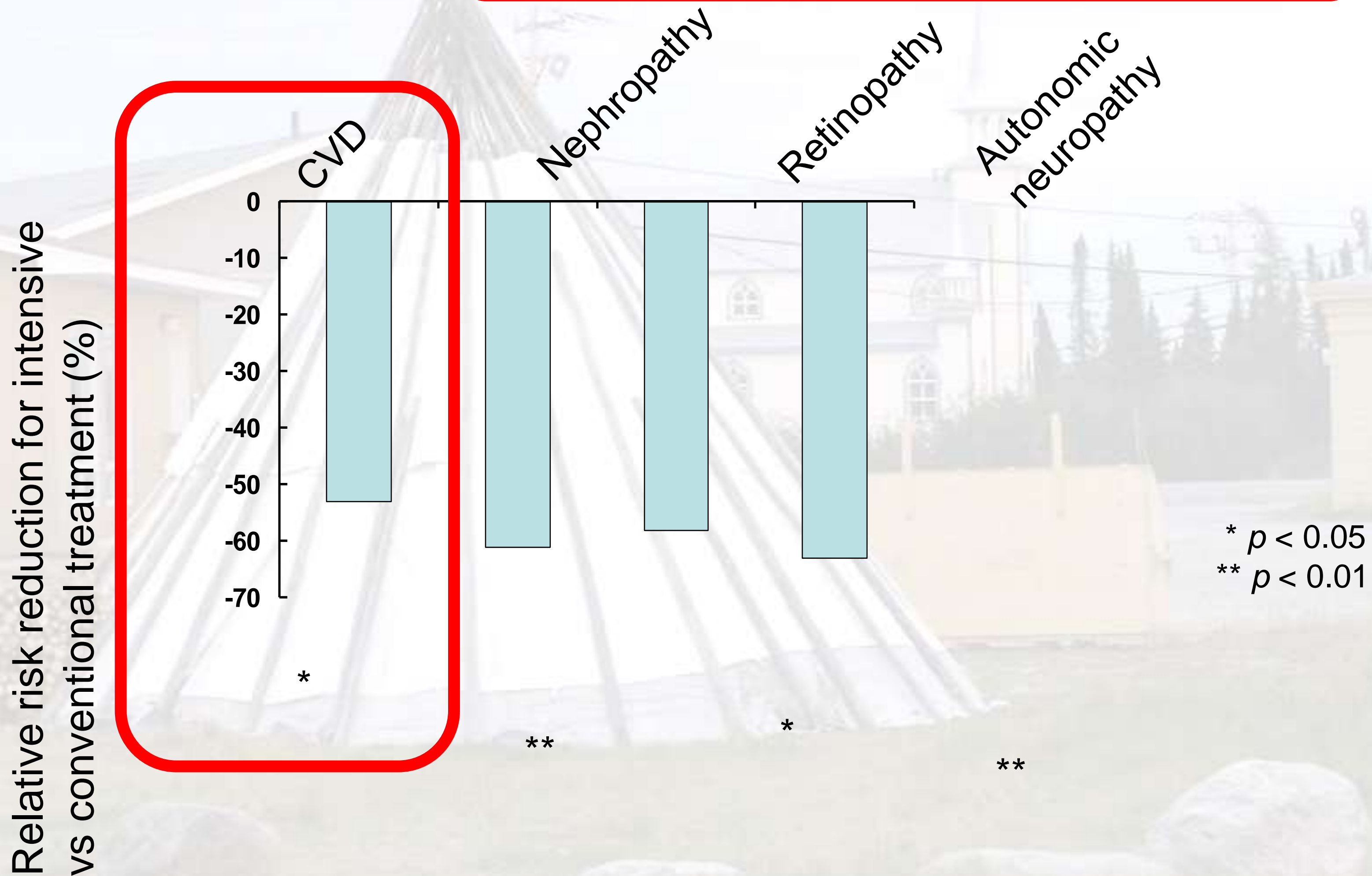
1% reduction in HbA_{1c} significantly reduced the risk of diabetes-related complications



UKPDS, United Kingdom Prospective Diabetes Study
PVD, peripheral vascular disease
Median follow up = 10 years, n = 3642 for relative risk analysis
†Primary endpoint; *p<0.0001; **p=0.035

Stratton *et al.* BMJ 2000; 321: 405–412

Steno-2: relative risk reduction with intensive multi-factorial treatment



Adapted from: N Engl J Med 2003;348:383–93

What does A1C tell you?

HbA1c is a marker of social distress

What can you do?

- **Be aware to avoid a power imbalance.**

- **Developing a therapeutic relationship with your patients** will allow you to understand the barriers to their care, and address them *when the patient is ready.*

- ***Develop acceptable prevention plan based on the current reality of the patient.***

What should you not do?

Don’t try and scare your patient into doing what you tell them to do.

Don’t provide too much information at one time

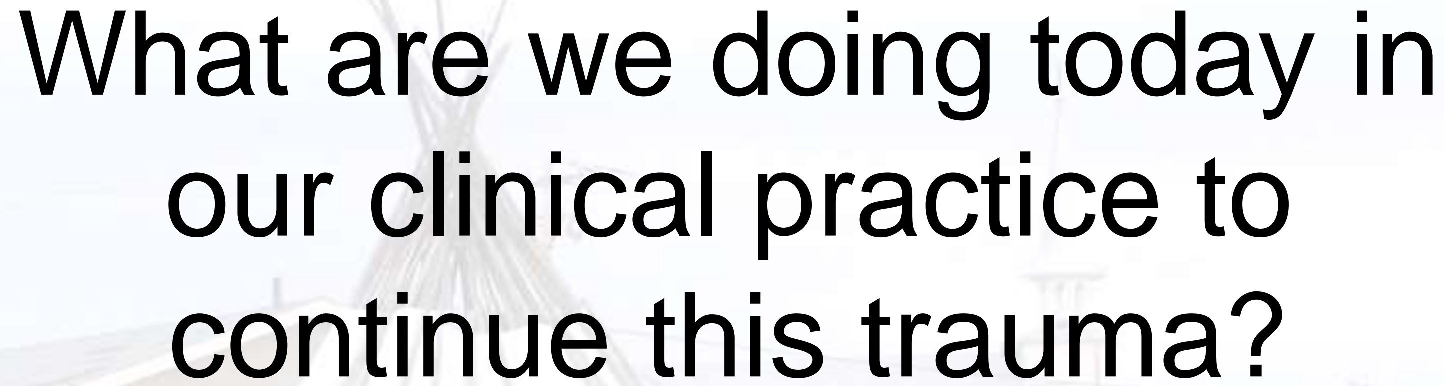
Don’t expect perfection immediately.

Only just starting the healing process…

"[In residential schools] children were forbidden to speak their own languages, and most were emotionally, physically, and sexually abused. This left a legacy of lost language and traditions, destroyed self-esteem, and unestablished parenting skills.

As adults, many turned to alcohol and drugs to relieve the mental pain, resulting in fragmented communities and multigenerational trauma. The **last residential school closed in 1996**, and **only in the summer of 2008 did the Canadian government finally offer an apology**."

* Data source: Macaulay A. Improving aboriginal health: How can health care professionals contribute? *Canadian Family Physician* 2009; 55: 334-336.



What are we doing today in our clinical practice to continue this trauma?

You have diabetes (no I don’t…)

You must stop eating goose greese, you must walk every day.

You must change your living..

You must take these meds ….

Smoking cessation in pregnant women:

Many victims of intimate partner violence, and were concerned about home security

smoking was a coping mechanism and an opportunity for social interactions.

Having someone from a middle class environment telling then that they should quit smoking was perceived as punitive.

Dr Jeffrey Reading

Last case – I promise!

52 yo F

DM 2 yrs smoker 1 ppd

A1C 7.5% LDL 3.5 ACR 77

Meds : metformin 850 TID Cardizem CD 360 qD
atorvastatin 40 qD HCTZ 25 qD
glyburide 10 BID atacand 32 qD
ASA 80 qD CaCO3 500 BID
vitamin D 1000 qD Fe SO4 300 BID

last visit –jan 2016 BP 180/95 Wt 122 kg

NAME

Q Number: W1SS66531215

t:

munity:

der:

of birth:

of diabetes: Type 2 DM

of diagnosis: 2014-03-25

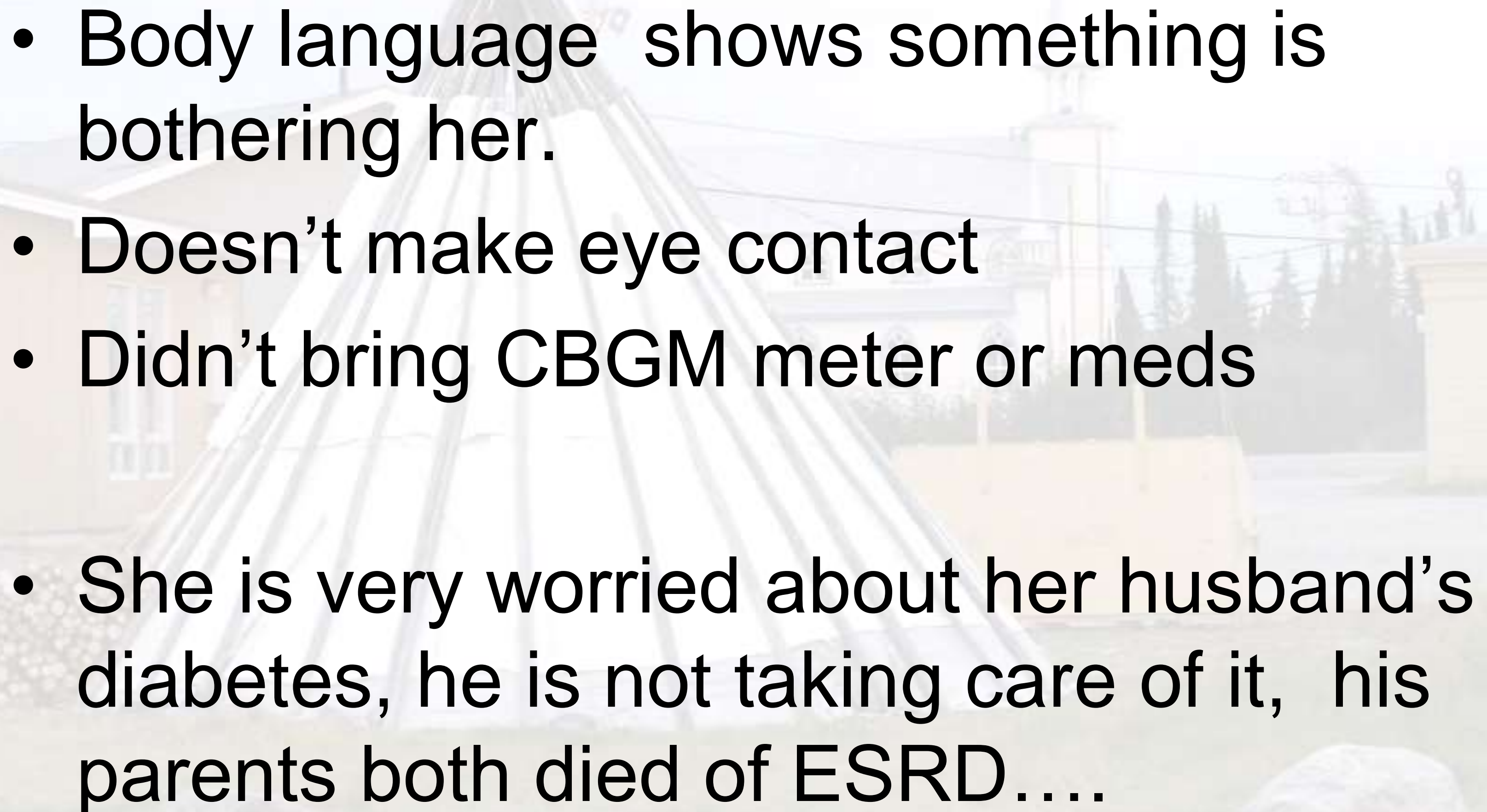
Delete Patient | Edit Patient

betes history

Date	Type of diabetes
-03-25	Type 2 DM

ent's Health Care Workers

CHR	
MD	
Nurse	
Nutritionist	



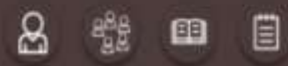
- Body language shows something is bothering her.
- Doesn't make eye contact
- Didn't bring CBGM meter or meds

- She is very worried about her husband's diabetes, he is not taking care of it, his parents both died of ESRD….

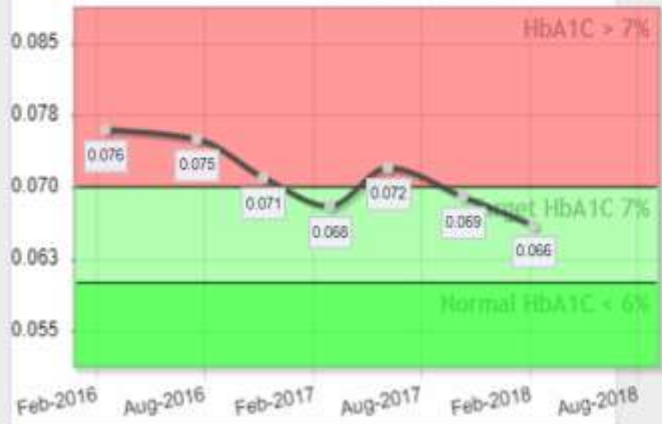
Thank you,
for listening.

Dr. David.

CHART

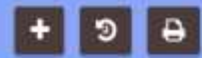


HbA1c



LDL (mmol/L)

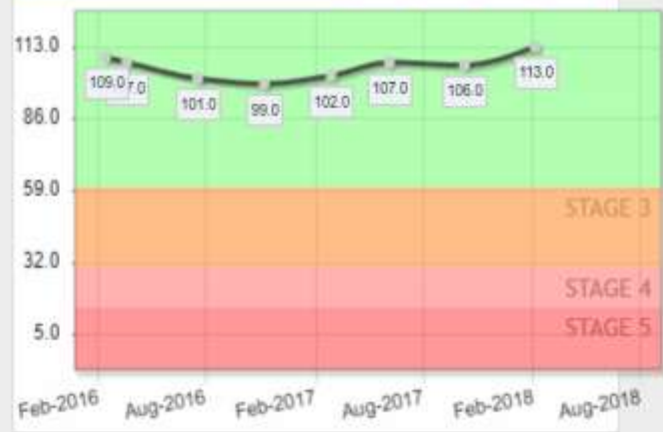
SPB/DBP



mmHg	Date
120 / 67	2018-05-01
122 / 82	2014-09-28

AC Ratio

eGFR (ml/min)



Guideline

A1C Conversion Table

Pre-Diabetes

Fasting sugar level :

Above 7

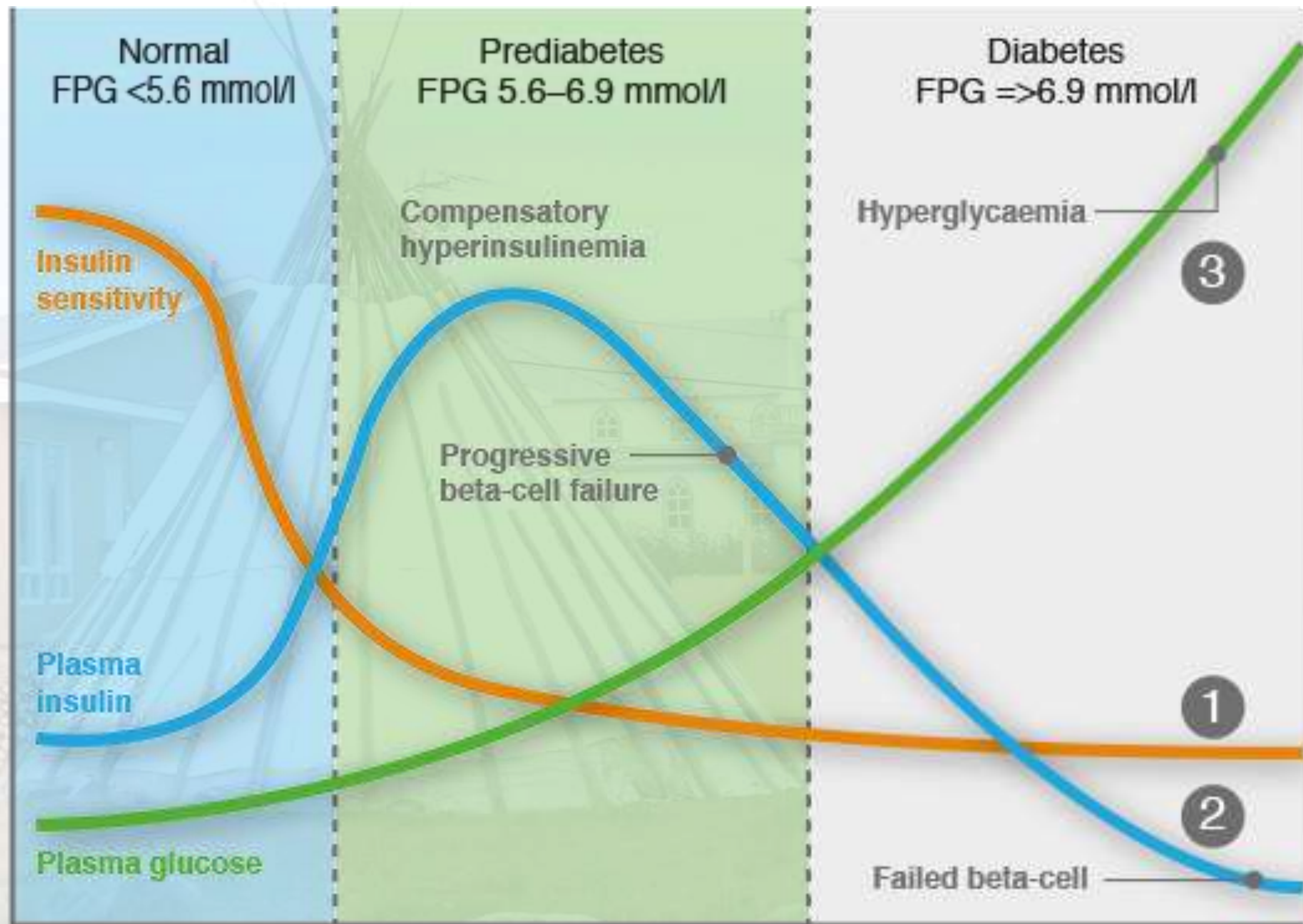
Between 6 and 7

Below 6

Pre-diabetes is a **warning sign**.
Ask for the pamphlet to learn how to **prevent diabetes.**

Conseil Cri de la santé et des services sociaux de la Baie James

Cree Board of Health and Social Services of James Bay



Cree Board of Health and
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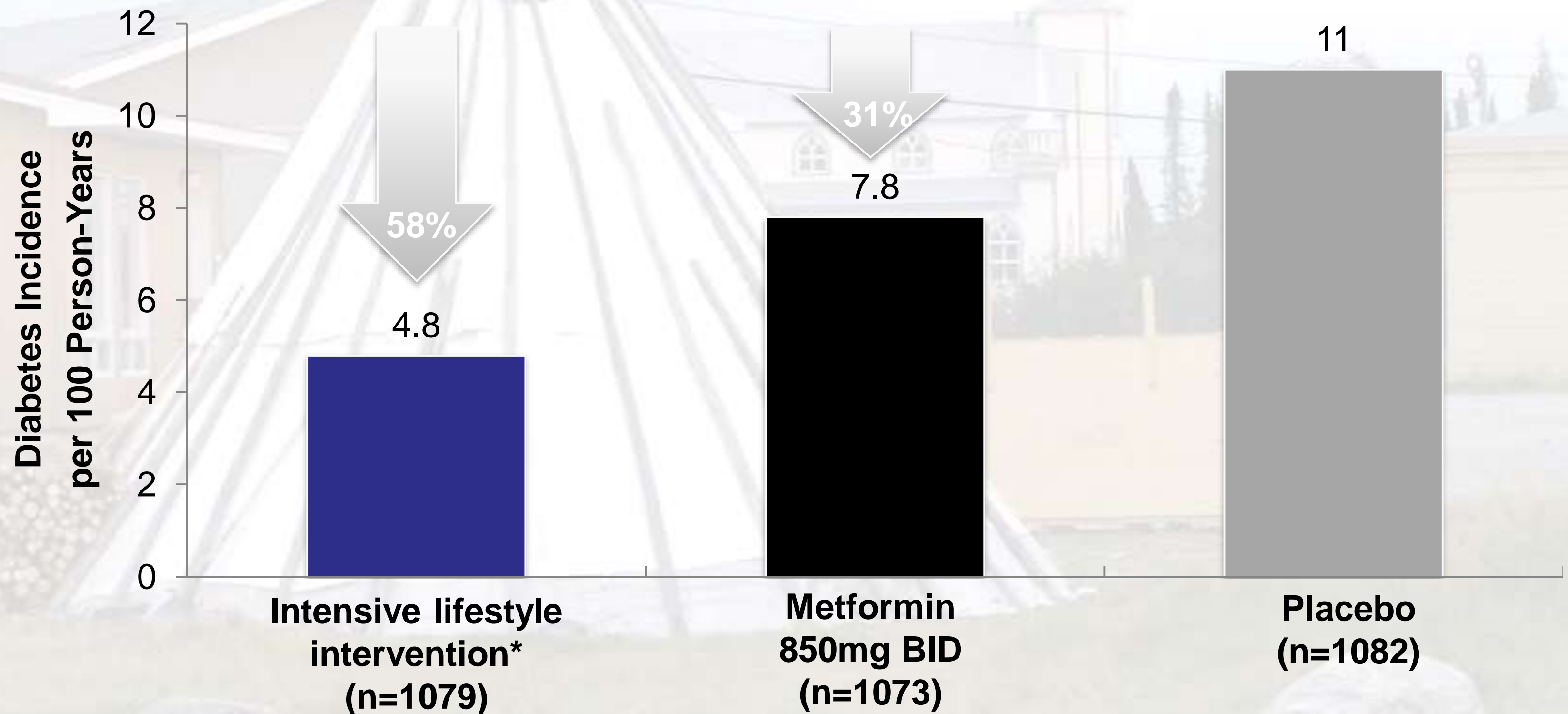
Intensive Lifestyle Intervention Effectively Prevents Progression From IGT to T2D

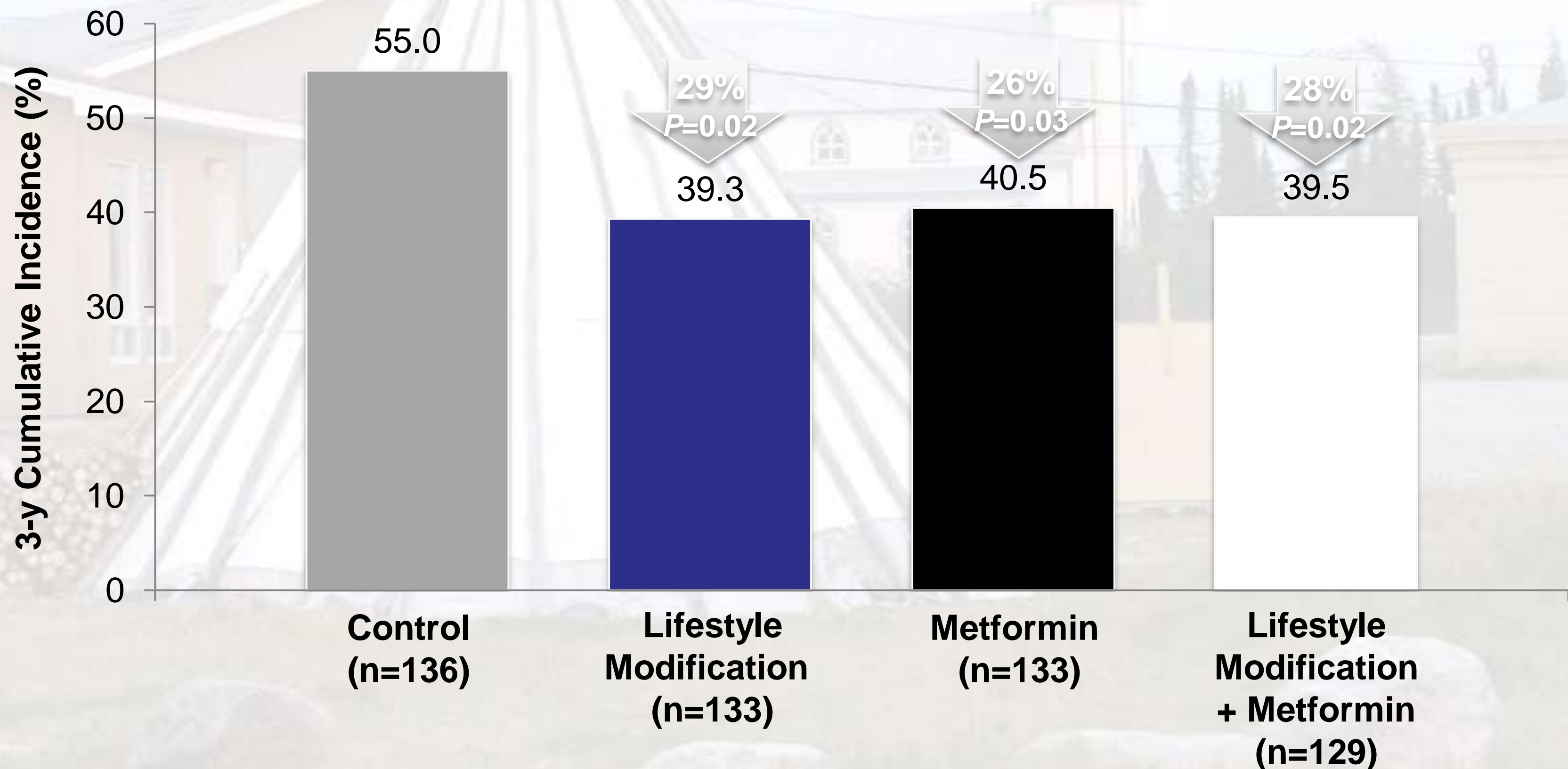


*Goal: 7% reduction in baseline body weight through low-calorie, low-fat diet and ≥150 min/week moderate intensity exercise .

IGT, impaired glucose tolerance; T2D, type 2 diabetes.

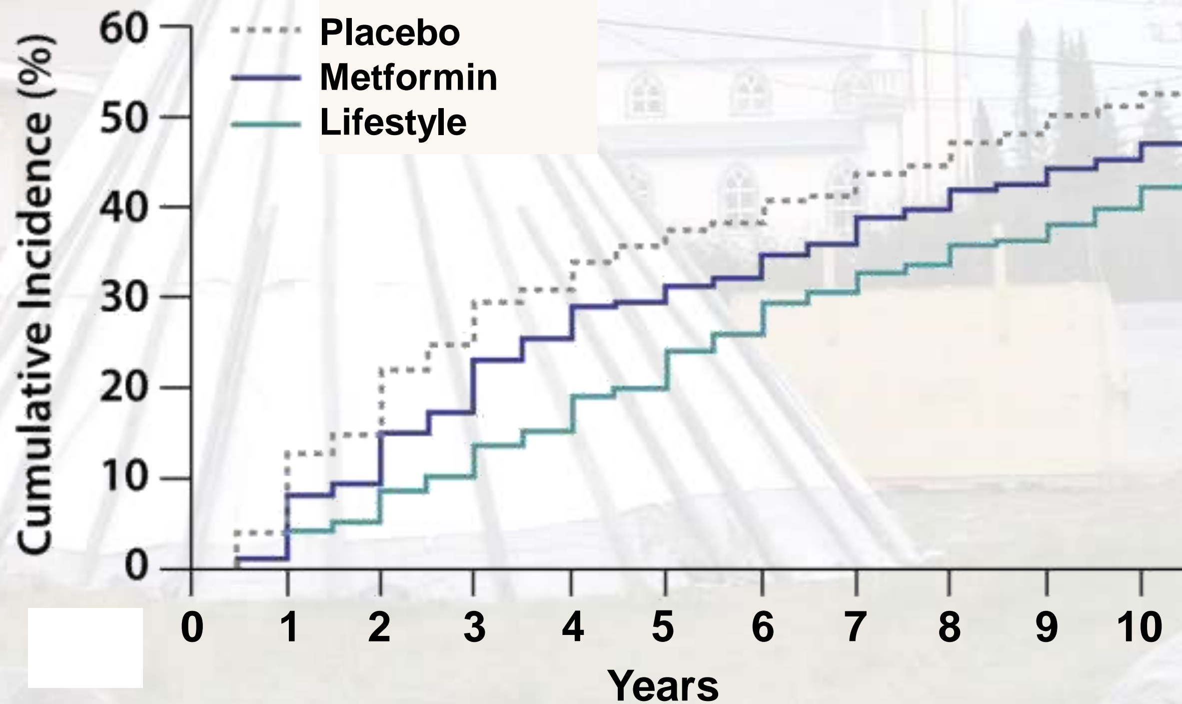
DPP Research Group. *N Engl J Med.* 2002;346:393-403.

Effect of Lifestyle Modification and Metformin on Cumulative Diabetes Incidence



Ramachandran A, et al. *Diabetologia.* 2006;49:289-297.

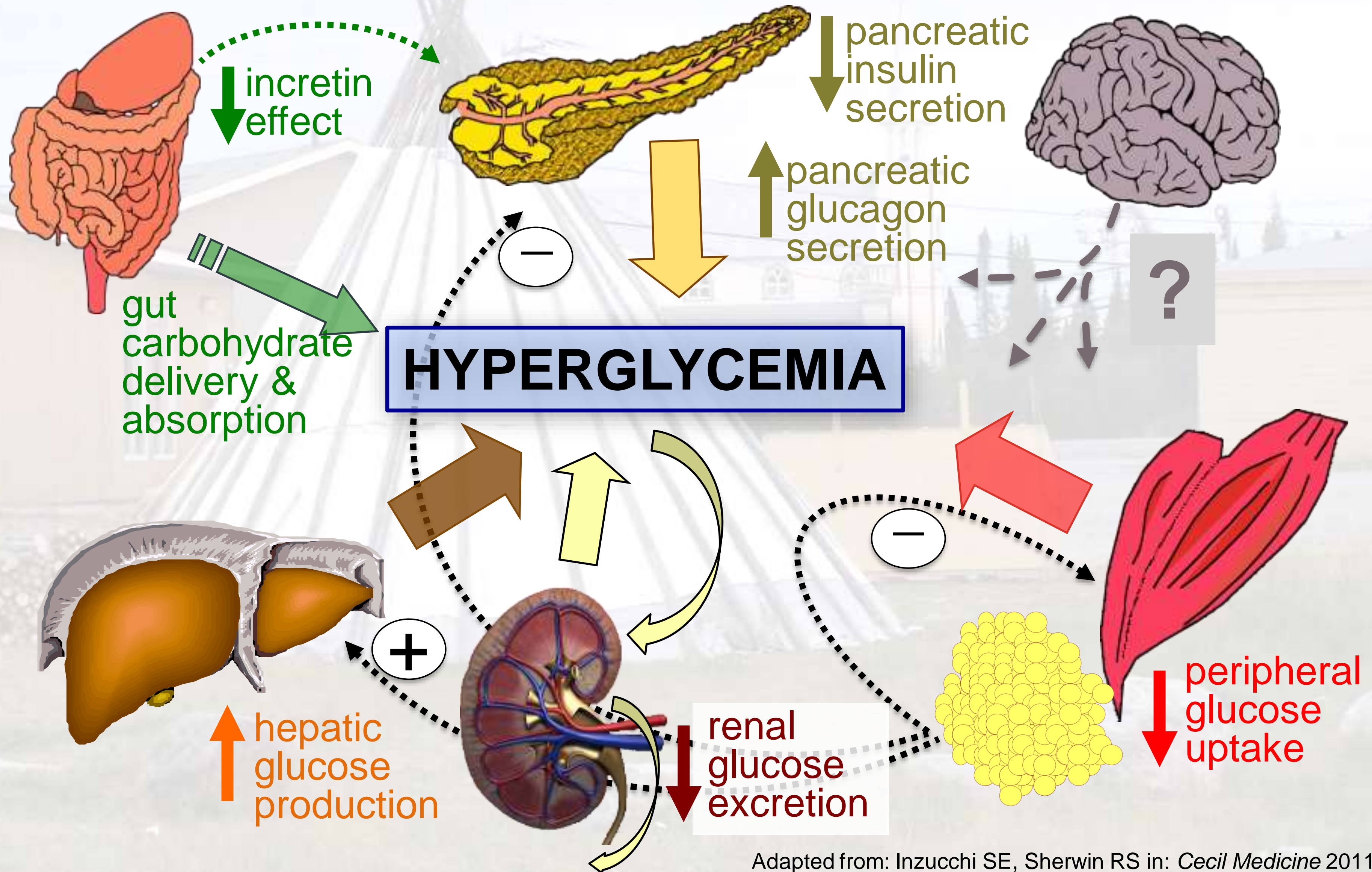
10-Year Incidence of T2D



DPP, Diabetes Prevention Program; T2D, type 2 diabetes.

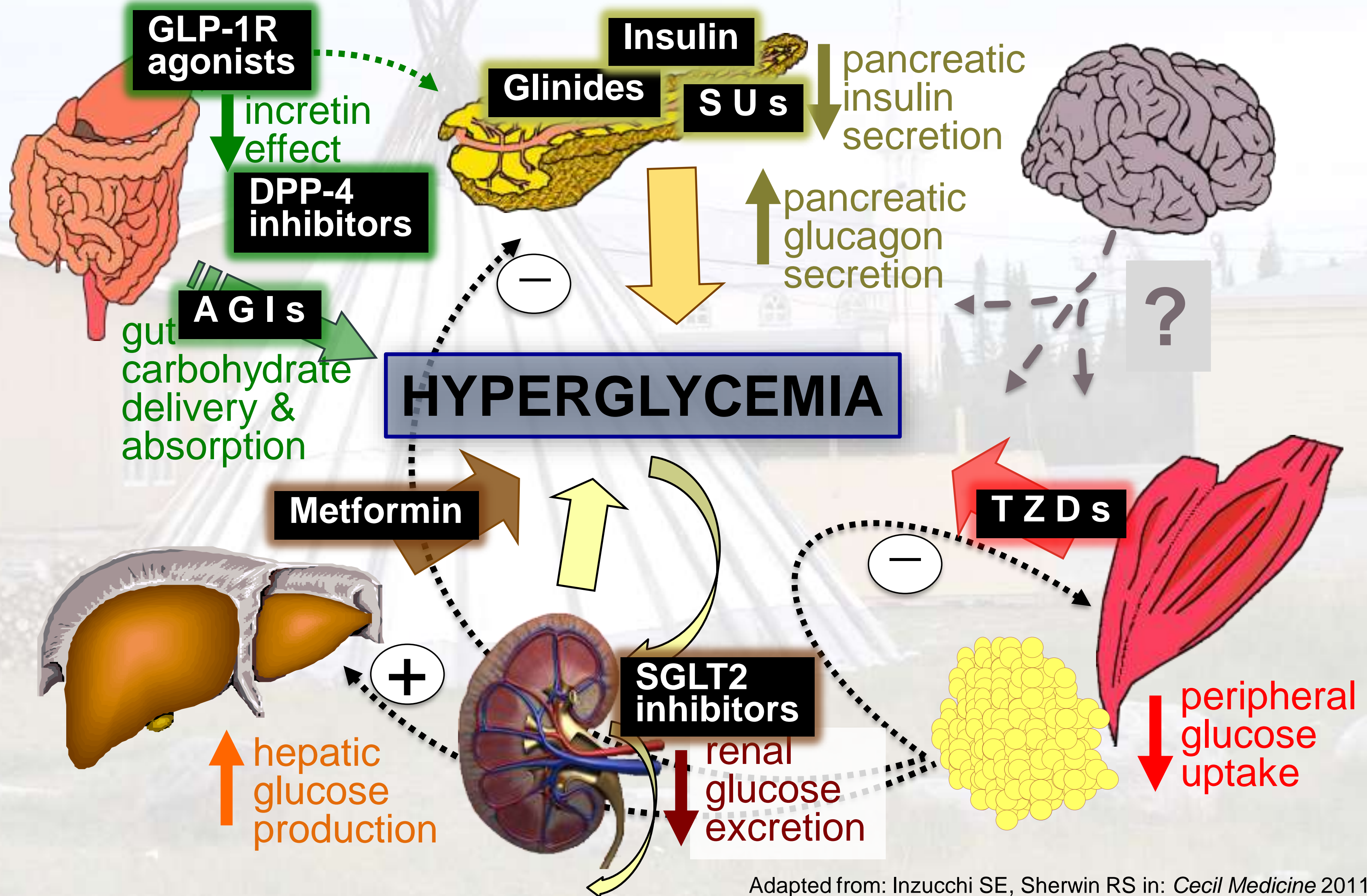
DPP Research Group. *Lancet*. 2009;374:1677-1686.

Multiple, Complex Pathophysiological Abnormalities in T2DM



Adapted from: Inzucchi SE, Sherwin RS in: *Cecil Medicine* 2011

Multiple, Complex Pathophysiological Abnormalities in T2DM



Adapted from: Inzucchi SE, Sherwin RS in: *Cecil Medicine* 2011

Addressing social determinants of health

- UNDERSTAND issues and be non judgemental
- Offer time for discussion, share about yourself!
- Listen….   Don't speak.
- **Encourage and celebrate small changes**
- Be there whey they are ready!

Conclusion

- Strategies to control in Indgenous populations requires a multi-factorial approach to CV disease risk factors, .

Conclusion

... taking into account the cultural realities of living with diabetes in First Nations.

To do this, you must get to know who your patients are, and develop a trusting therapeutic relationship with them.

Meegwitch.

Questions?

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